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Project Acronym: i-locate

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Project Title: Indoor/outdoor LOCation and Asset management Through open gEodata

D.7.4 Risk Log

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P	Public	X
C	Confidential, only for members of the consortium and the Commission Services	

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REVISION HISTORY AND STATEMENT OF ORIGINALITY

Revision History

Revision	Date	Author	Organisation	Description
V 01	12/12/2016	Irene Facchin	TRILOGIS	First version

Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

1. Table of Acroyms

Acronym	Description
A	Other
D	Risk related to the accessibility of data
I	Impact
M	Risk related to project management
N	Risk linked to norms or regulatory framework
O	Risk related to operating activities
P	Probability
T	Technological Risk

2. Executive Abstract

The risk plan in i-locate has been edited following the recommendations by the Project Management Institute (PMI) as detailed within the document Project Management Body of Knowledge (PMBOK®). The plan provides a "system" approach to the project risk management through a process that begins with the preparation of the risk plan, which defines the methodology for risk management, and it continues throughout the project lifecycle through constant monitoring, detection, evaluation (qualitative and quantitative) and documentation of risk factors, the identification of any mitigating action, and the subsequent monitoring of residual risks until their complete resolution is achieved or the project activities are concluded.

This document provides the results of the activity of continuous monitoring of the project activities. The report covers the last year of the project, from the 1st of January 2016 to the 31st of December 2016.

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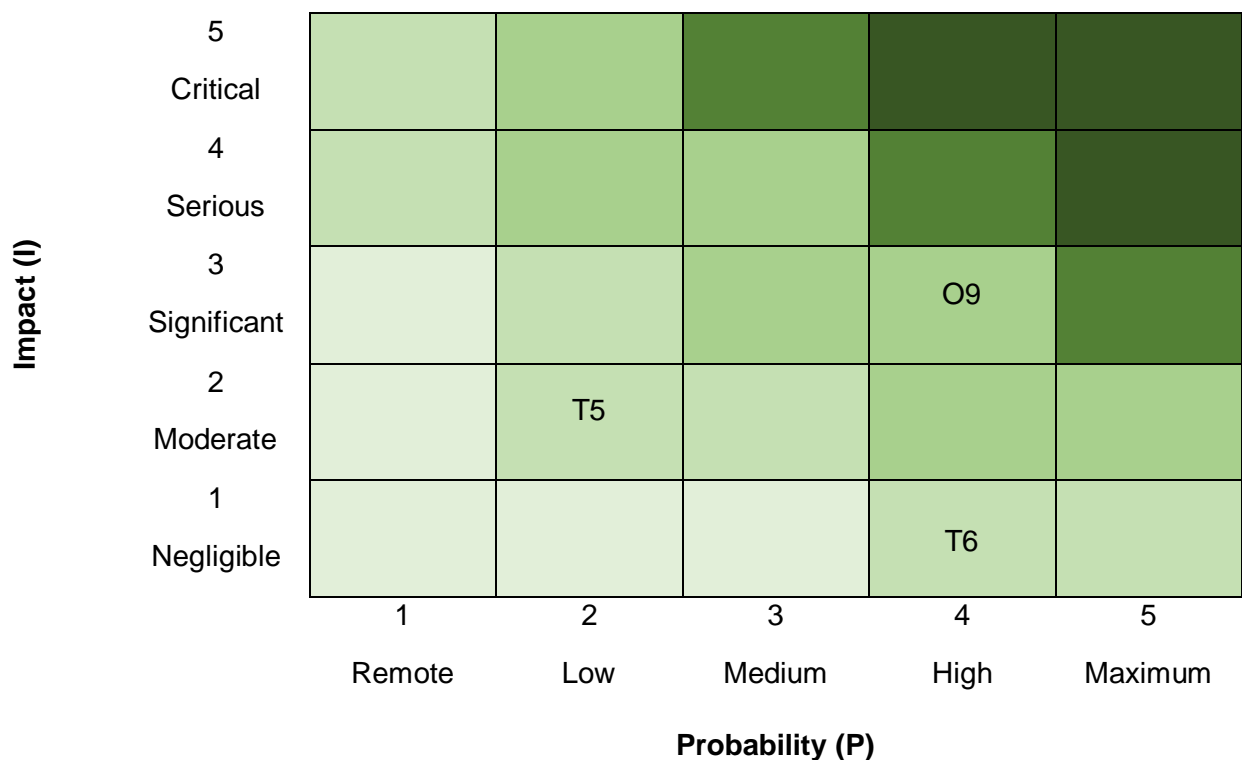
3. Risk Analysis methodology

This document provides the results of the activity of continuous monitoring of the project activities. It covers the period of the project activities from the 1st of January 2016 to the 31st of December 2016.

Risks in the i-locate project have been articulated into the following categories:

- T = Technological Risk.
- O = Risk related to operating activities.
- M = Risk related to project management.
- N = Risk linked to norms or regulatory framework.
- D = Risk related to the accessibility of data.
- A = Other.

The following rating has been used for project risks according to their severity and the probability of happening.



Probability	Description
5 = Maximum	Will surely happen: "1 on 1" chance
4 = High	May happen frequently, chances are between "1:1" and "1:10"
3 = Medium	May happen, chances between "1:10" and "1:100"
2 = Low	May happen rarely, chances between "1:100" and "1:1000"
1 = Remote	Very rare chance, less than "1:1000"

The classification in terms of probability (P) and impact (I) of risk factors, as per the graphic above, allows the definition of the Matrix Risk Index (RI), as presented within the following Table 1. The risks are herewith grouped according to a classification of the risk level.

Table 1. Matrix Risk Index Table

IR >= 20	Max	High risk of non-compliance of the project results, significant impact on the functionality provided by the system as well as on the timing and costs.
16 <= IR < 20	High	High risk of non-compliance of the project results, possible adoption of alternative technologies or methodologies with small variations on the final results but with a significant impact on costs and time.
6 <= IR < 16	Middle	Low risk of non-compliance of the project results, possible mitigation through adoption of alternative technical solutions with reduced consequences (time/costs).
4 <= IR < 6	Low	No risk of non-compliance of the expected results, minor changes compared to the nonfunctional requirements, marginally behind schedule (which can be absorbed in the course of further project activities) and costs.
IR < 4	Min	No risk of non-compliance, no change to functional characteristics, no impact on costs / time.



4. Risk Analysis

4.1. Technological Risks

ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
T1	Risks inherent to the usage of open source tech., with poor commercial support.	3	2	No		
T2	Open source – possible sustainability issues generated from lack of interest to keep it updated.	2	2	No		
T3	Defined use-cases from the final users are not compatible with the technical requirements.	4	2	No		
T4	Some of the technology to be integrated are not mature enough and do not scale when deployed in the pilots.	4	1	Yes	Yes	As described in the deliverable 5.1., partner TU/e reported that there are still some additional features to be included in the i-Locate App in order to ensure full coverage of all the use cases, with particular regard to visualisation of features necessary for the navigation function. The team has worked on these issues and currently this risk is closed, even if not all the technologies to be integrated are 100% ready to be used.

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ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
T5	The indoor localization technology chosen fail to provide the required accuracy.	2	2	Yes	No	One of the technologies that surprised the pilots negatively has been Combain. It was described as easy, fast, and with no hardware required. However, it required a lot of configuration and calibration in all the pilots where the technology has used; and, even when everything was done properly, it resulted in low precision (about 10 meters) and high latency (more than 2 or 3 seconds for a new position). These results showed the technology as not viable for people tracking except if the positioning is a one-time or per-request. Genova pilot is currently using this technology for locating people with low latency and it is truly satisfying the requests.
T6	Problems with integration of different technologies available to the project.	4	1	Yes	No	Due to limitation in the API available for GALILEO, it may not be entirely possible to develop the solution for iOS devices (instead the Android version is being developed with no specific issue), since this may require non-standard solution (i.e. jail-breaking of the smartphone). Solutions to this issue are being considered by the technical team. In case of a technical barrier full GALILEO support will be ensured for Android devices only.



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ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
T7	Delayed delivery of results.	3	3	Yes	Yes	



4.2. Risks Related to Operating Activities

ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
O1	Low involvement of the final users in the definition of Use-Cases	4	2	No		
O2	Low involvement of the final users in later activities of the project	3	2	No		
O3	Scarce participation by the stakeholders in validating the results from the pilots	5	3	No		
O4	Training material is not suitable for the purpose or not in the right format	4	3	No		
O5	Participation in the training actions by the targeted users is low	4	1	No		
O6	Breach of system security	4	2	No		
O7	Insufficient or incorrect maintenance	3	2	No		



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ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
08	Change to pilot areas	3	5	Yes	Yes	
09	Delays in pilot activities	4	3	Yes	No	Delays and setup problems at the pilot in Tremosine have slowed down the activities of the pilot. The impact of this is limited to the single pilot site.



4.3. Risks Related to Project Management

ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
M1	Original plan within the DoW not corresponding to actual project costs or efforts	4	1	No		
M2	Partner delivering poor or unsatisfactory results	4	1	No		
M3	Technical partner leaving the project	4	1	No		
M4	Supporting technical partner leaving the project	4	1	No		
M5	Pilot partner leaving the project	4	1	No		
M6	Marginalisation of partner	3	1	No		
M7	Limited involvement of members of the Advisory Board	2	1	No		



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ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
M8	Problems with liaising with international initiatives	2	1	No		



4.4. Risks Related to Norms or Regulatory Framework

ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
N1	Regulatory elements that set constraints to the pilots' deployment and use of the <i>i-locate</i> toolkit.	5	3	No		
N2	Differences between legal framework may cause undue constraints.	3	1	No		
N3	Problem with privacy issues related to use of location based services with patients or differently abled citizens.	4	1	No		



4.5. Risk related to accessibility of data

ID	Description of possible risks	—	P	Occurred?	Finished (if occurred)	Remedial actions
D1	Data update, as changes in infrastructure may occur.	2	4	No		
D2	Limited data availability (data variance, change of specifications, data coverage).	4	3	No		
D3	Limited accuracy and precision.	3	2	No		
D4	Limited or no access to indoor mapping data of old buildings.	4	2	No		
D5	Inability to collect indoor data beyond the pilots involved.	1	2	No		
D6	Limited access to other data Sources.	3	2	No		



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ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
D7	Data format of the maps were not suitable	3	2	No		



4.6. Other Risks

ID	Description of possible risks	I	P	Occurred?	Finished (if occurred)	Remedial actions
A1	Limited involvement of international community.	1	1	No		
A2	Unsatisfactory impact of standardisation activity.	1	2	No		